

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-21. Cancelled.

22. (Currently Amended) An apparatus for liver assist comprising:

(a) a housing defining a blood flow path and having a blood inlet, a blood outlet, a liver-assist fluid inlet and a liver-assist fluid outlet;

(b) a double lumen shaft defining a liver-assist fluid inlet path and a liver-assist fluid outlet path wherein the double lumen shaft liver-assist fluid inlet path is in fluid communication with the housing liver-assist fluid inlet and the double lumen shaft liver-assist fluid outlet is in fluid communication with the housing liver-assist fluid outlet;

(c) at least one distributor element mounted on the double lumen shaft and defining a blood flow path, the at least one distributor element having:

(i) an outer ring with a first and second face;

(ii) an outer ring cap concentrically spaced with respect to the outer ring such that the outer ring and outer ring cap define a liver-assist fluid supply plenum and a liver-assist fluid return plenum;

(iii) a first hollow spoke in fluid communication with the liver-assist fluid inlet path and the liver-assist fluid supply plenum;

(iv) a second hollow spoke in fluid communication with the liver-assist fluid path and the liver-assist fluid return plenum; and

(v) a plurality of selectively semi-permeable membrane elements extending across the distributor [disk] blood flow path and each of the plurality of selectively permeable membrane elements in fluid communication with the liver-assist fluid supply plenum and the liver-assist fluid return plenum; and wherein when blood flows through the housing flow path and [the] dialysate flows through the plurality of selectively fluid permeable membrane elements and when the at least one distributor element rotates about the at least one double lumen shaft, metabolic waste products from the blood diffuse into the dialysate which simultaneous heating and pumping of the blood occurs.